

# Working on Labor

Essays in Honor of Jan Lucassen

*Edited by*

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## WORKING FOR DIAMONDS FROM THE 16TH TO THE 20TH CENTURY<sup>1</sup>

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Diamonds have a long history of globalization—a history characterized by only a few (though often changing) world centers of production and trade, strongly interconnected and linked to consumer markets. India has played a major role in this history. The first diamonds were mined and finished there, and nowadays more than 90% of all diamonds are cut and polished in this subcontinent. In between—from the 16th century until the second half of the 20th century—various European cities in succession became major diamond finishing centers, obtaining their rough diamonds from various parts of the world.

Diamonds are not only a global commodity par excellence; they are also a luxury commodity *pur sang*. Diamond research has therefore focused mainly on the diamond trade, consumption and the associated consumer culture. Diamond production and the effects this had on labor are often neglected. Since a lot of work is involved along the route “from mine to finger,” and since this commodity chain has an age-old global character, diamond production offers us a perfect exemplar for “how to do” global labor history. My main aim in what follows is to show the global interconnectedness of diamond production, trade and consumption and its effects on labor relations world wide. The focus will be on India and Europe, although I will also touch on other parts of the world.

### *Diamond trajectories*

Already in antiquity, Indians traded diamonds with the Romans, whose trading routes exported the stones as far away as China, where they were mainly used as tools to drill holes in jade.<sup>2</sup> In the late Middle Ages, we

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<sup>1</sup> This article is part of my research project *Luxury and Labour: A Global Trajectory of Diamond Consumption and Production, 16th to 19th Century*, funded by the Fritz Thyssen Stiftung.

<sup>2</sup> Also later on, no interest in diamonds for jewellery seemed to have developed. Craig Clunas, *Superfluous Things: Material Culture and Social Status in Early Modern China* (reprint, Honolulu, 2004) mentions mainly jewellery made of jade, pearls, ivory and silver.



see a reintroduction of diamond consumption in Europe. The first diamonds reaching Europe from India in the early Renaissance were bought and sold by individual merchants, who transported the stones via caravan routes (using parts of the silk route). They sold their merchandise in Venice, where most of the stones were finished. In the 16th century, the Portuguese discovered shorter sea routes to India, and they became the most important diamond dealers, rerouting the trade from India (often Goa) to Lisbon and from there to Antwerp, where a polishing industry started to flourish. At that time, Antwerp was already the principal market where the Portuguese sold their spices and bought copper, timber, grain and other essentials for the Asian trade and for the Iberian economies.<sup>3</sup>

The Dutch East India Company (VOC) entered the diamond trade at the beginning of the 17th century, buying stones from local merchants, and sending them off from their factory on the Coromandel Coast. Although the VOC for some time made large profits in the diamond trade—by forbidding its employees to engage in the much more effective private trade—it lost its position to the English traders who soon overtook both the Portuguese and the Dutch. Amsterdam nevertheless became an important diamond trading and finishing center in the 17th century. At first the East India Company (EIC) had a monopoly on the trade of diamonds (and many other commodities). However, after the 1660s it not only allowed company servants to buy small amounts of stones, but also permitted private traders to import Indian diamonds via EIC officers.<sup>4</sup> The major “export hub” for diamonds in India at that time was Madras, and London became the major market for rough diamonds, although an extensive diamond finishing industry never developed in England.

When large diamond deposits were found in Brazil in the late 1720s, the Portuguese—after a short “free-for-all” period—claimed a monopoly both on the exploitation of the mines, and on the transport and sale of rough diamonds. This made Lisbon the port where the rough diamonds first arrived. Since however most large merchants were British, and a lot of stones reached the British capital illegally, London remained the center

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See also <http://www.nytimes.com/2005/05/31/business/worldbusiness/31diamonds.html> published in 2005, last assessed on 12 April 2011, where a young Chinese woman states that jade (‘popular for centuries in China’) is outdated and diamonds are more convenient and lightweight to wear. “They make you look sharp.”

<sup>3</sup> James C. Boyajian, *Portuguese Trade in Asia under the Habsburgs, 1580–1640* (Baltimore, 1993), pp. 135–6.

<sup>4</sup> Søren Mentz, *The English Gentleman Merchant at work. Madras and the City of London 1660–1740* (Copenhagen, 2005), pp. 116–7.

of the rough trade. The indirect trading route between Rio de Janeiro and London via Lisbon eventually ended the Indo-European trade in rough diamonds, although the mining and finishing of diamonds in India continued, as we shall see.

Globalization increased further after 1870, when huge diamond deposits were discovered in South-Africa. The De Beers Company soon established a mining and rough trade cartel, settling its Central Selling Organisation in London. Prices fell, the diamond democratized, and a large demand led to a large finishing industry which started to sell its products also in the United States. In the course of the 20th century, new deposits were discovered in Africa, Russia, Australia and Canada, and new consumer markets were explored. Yet the abundance of relatively cheap rough diamonds became one of the factors that shifted the finishing industry back to its original cradle, India.

### *Labor in the Indian diamond mines*

India's Golconda mines were world-famous in the early modern world. According to the Oxford dictionary, Golconda is synonymous for "a source of wealth, advantages, or happiness." The mines were actually not located in Golconda itself—the diamonds were only sold there—but situated further East in and around Kollur, in the basin between the Godavari and Krishna river. Other fields on the Deccan plateau, in what is now Andhra Pradesh, could be found around Kurnool, between the Krishna and Penner river, and more South on the Penner River in and around Cuddapah. A second group of mines were dug in and around Sambalpur on the Mahanadi river, in present day Orissa. The third group was located in Panna, in present-day Madhya Pradesh.

There are several detailed 17th century European descriptions about the Indian mines. The earliest description is by Jaques de Coutre, a Bruges-born diamond merchant who went to Goa with his brother Joseph. Goa was ruled by the Portuguese since 1510, and functioned as a true global "trade hub." The De Coutres settled there as merchants in precious stones.<sup>5</sup>

<sup>5</sup> De Coutre's son wrote down his father's memoirs in 1640. The original manuscript *Vida de Jaques de Coutre, natural de la ciudad de Brugas, condado de Flandes. Puesto en la forma que está por su hijo, Don Estevan de Coutre*, Madrid 1640 is kept in the National Library in Madrid. For a translation see Johan Verberckmoes and Eddy Stols (eds), *Aziatische omzwervingen. Het levensverhaal van Jaques de Coutre, een Brugs diamanthandelaar 1591–1627* (Berchem, 1988).



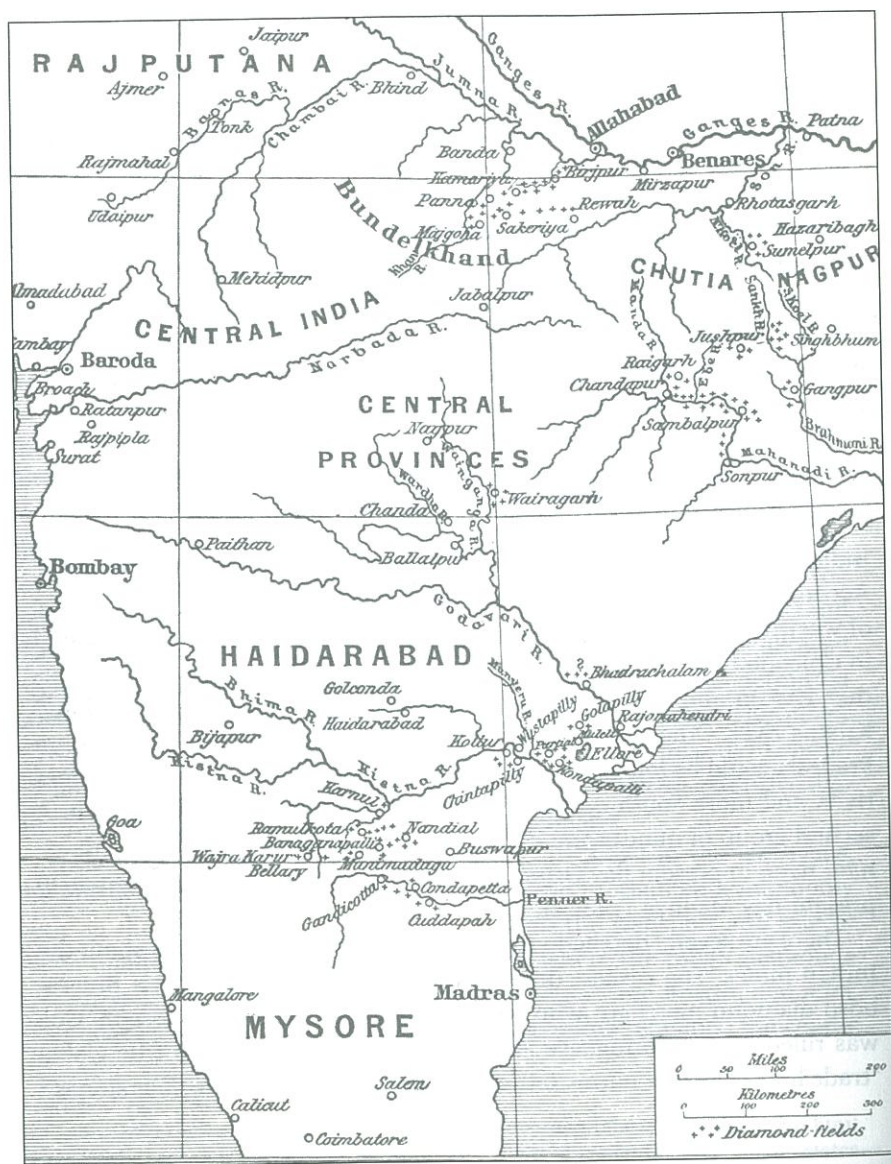


Figure 1. Diamond fields in India, from *Precious Stones, Volume I* by Max Bauer, published by Dover Publications in 1968 as re-issue of an original from 1904, p. 144. Courtesy of Dover Publications Inc.

In the period from 1611 to 1618, Jaques visited several mines in the Deccan plateau, writing the most detailed report on the mine of Ramallakota, near Kurnool situated in the Golconda Sultanate, which was then ruled by the Qutb Shahi dynasty. A second description is from William Methwold, an English merchant in the service of the EIC who was engaged in buying diamonds.<sup>6</sup> In his ethnographic sketch of several kingdoms along the East coast, he included an account of a mine very near the Kollur mine which he visited sometime in the 1620s.<sup>7</sup> This mine was situated in the Bijapur sultanate, which at the time of Methwold's visit was ruled by sultan Ibrahim Adil Shah II. A third and perhaps most well-known description is from Jean-Baptiste Tavernier, a French jeweler who traveled many times to India in the 1640s, 1650s and 1660s and bought and sold diamonds and other gemstones, amongst others to Louis XIV.<sup>8</sup> He provides very detailed descriptions of the Ramallakota mine which he visited in the 1640s. A fourth sketch is from Pieter de Lange, a Dutch doctor and chief factor (merchant) in the service of the VOC, who later became governor of Masulipatnam, one of the factories of the Company on the Coromandel Coast. In 1663, the VOC sent him to the Kollur mine to buy diamonds. Though he did not succeed in making good deals, he did provide a lot of information about the exploitation of the mines.<sup>9</sup> A fifth report is from Henry Howard, Earl of Marshall and 6th Duke of Norfolk who presented his findings about 23 mines in the Golconda sultanate and 15 mines in the Bijapur sultanate—including Kollur—to the Royal Society of England in 1677. Finally, there is a description of the diamond mines of Kollur and nearby Gollapilly, written in 1679 by Streynsham Master, an EIC official who was at that time an agent of Madras.<sup>10</sup> From the descriptions of these

<sup>6</sup> Mentz, *English Gentleman Merchant*, p. 116.

<sup>7</sup> Methwold's *Relation* was re-issued in 1931 as part of the volume of W.H. Moreland (ed.), *Relations of Golconda in the Early Seventeenth Century* (London, 1931). On page 33 of this edition, Methwold states that the mine was closed in 1622. His *Relation* was first published in 1626.

<sup>8</sup> Tavernier also travelled through the Levant and Persia. His original accounts were published in French: *Le Six Voyages de J. B. Tavernier en Turquie, en Perse et aux Indes* (Paris, 1676).

<sup>9</sup> According to Tavernier, Pieter de Lange first worked as a surgeon at the court of the king of Golconda till 1656. J-B. Tavernier, *Travels in India*. Translated from the original French Edition of 1676 by V. Ball (reprint, New Delhi, 1989), 2 vols, I, pp. 240–3. For the report, see Pieter van Dam, *Beschrijvinge van de Oostindische Compagnie*, book 2, vol. I, (The Hague, 1932), pp. 176–81.

<sup>10</sup> "A Description of the Diamond-Mines, as it was Presented by the Right Honourable, the Earl Marshal of England," *Philosophical Transactions of the Royal Society*, 12, 136 (25 June 1677), pp. 887–917, at 908. [i.e. Henry Howard] R.C. Temple (ed.), *The Diaries of*





merchants and Company officials we can obtain a good picture of the activities in and around the mines.

Usually the emperor, king or sultan who had the mines on his territory also owned the mines. He could choose whether or not he wanted to farm out the mine, and if so to whom.<sup>11</sup> The ruler leased the mine to the highest bidder, who could be a native entrepreneur (a member of the goldsmith caste—*kamsali*—for example) but also could be a foreigner, like the Portuguese Albaro Mendez, a member of a wealthy Sephardic family from Lisbon who was trained as a goldsmith in Antwerp and then sent to India in 1545 to acquire diamonds.<sup>12</sup> Governors—revenue farmers—acted as intermediaries between the king on the one hand, and the merchants (“adventurers”) who actually commissioned miners to dig for diamonds on the other.<sup>13</sup> These merchants were often *Banians* from Gujarat, who maintained a tight grip on the diamond trade and a wide trade network.<sup>14</sup> According to Henry Howard:

The Merchants are the Banians of Guzzarat, who for some Generations have forsaken their own Country to take up the Trade, in which they have had such success, that’ tis now solely engros’d by them; who corresponding with their Country-men in Surrat, Goa, Colconda, Visiapore, Agra and Dillee, and other places in India, furnish them all with Diamonds.<sup>15</sup>

We know that the early modern European travellers tended to apply the term “Banian” to all Hindu merchants and traders, using it as an occupational category, rather than to signal caste affiliation. Today’s scholars however also explicitly mention the Gujarati Bania diamond traders as

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*Streynsham Master 1675–1680 and Other Contemporary Papers Relating Hitherto*, vol. II: *The First and Second “Memorialls” 1679–1680* (London, 1911), pp. 113–4 and pp. 172–5.

<sup>11</sup> According to Henry Howard, several Raja’s and sultans in South India had (some of) their mines dug out only privately, “A description of the Diamond-Mines,” pp. 907–9.

<sup>12</sup> For the highest bidder, see Mentz, *English Gentleman Merchant*, p. 111; for the goldsmith, see Methwold in Moreland (ed.), *Relations of Golconda in the Early Seventeenth Century*, p. 31, as well as Narahari Gopalakristnamah Chetty, *Manual of the Kurnool District in the Presidency of Madras* (Madras, 1886), p. 94; for the Portuguese, see Verberckmoes and Stols (eds), *Aziatische omzwervingen*, p. 177 and Lucien Wolf, “Jews in Elizabethan England,” *Transactions of the Jewish Historical Society of England*, 11 (1928), pp. 1–91, at 24–5.

<sup>13</sup> Kanakalatha Mukund, “Mining in South India in the 17th and 18th Centuries,” *Indica*, 52–53 (1991), pp. 13–52, 17.

<sup>14</sup> Tavernier, *Travels in India*, II, p. 47, Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 179, “A Description of the Diamond-Mines,” p. 915.

<sup>15</sup> “A Description of the Diamond-Mines,” p. 915.

having an important role in the trade, amongst others as middle men between the mines and the European traders.<sup>16</sup>

In the Ramallakota mine, merchants had to pay the king a fee of two pagodas a day per fifty miners; this money was collected by the governor of the mine.<sup>17</sup> In the mine of Kollur, the governor had more responsibilities than that: here, the governor provided the merchants with workers, and made sure they were equipped with tools. In this mine, the merchants had to pay the governor a fee per worker, part of which went to the king and part to the miners.<sup>18</sup>

Rent was only one part of the king's revenues from the mine; he also received 2% of all diamond purchases and sales.<sup>19</sup> If the miners found a diamond weighing more than ten carats, they had to hand it over to the governor of the mine, who in turn had to transfer it to the king.<sup>20</sup> Notwithstanding the presence of overseers—hired by merchant commissioners—who supervised the mines, big diamonds were often excavated without this being reported to the governor, and directly sold on to “foreigners” for half the price the merchant would ask. If this was discovered, both the miner and the merchant were put to death, though De Coutre escaped this fate because he was a “Frank” (a European).<sup>21</sup> De Lange reported about the Kollur mine that this rule “was not applied too strictly.” If the miners found a big stone and reported it, they received a small bonus.<sup>22</sup>

Though the miners worked in small units, the total number of miners in a field could be enormous. De Coutre counted 50,000 men, women and children in Ramallakota, while Methwold counted some 30,000 “souls” working in the diamond fields near the Kollur mine. About twenty years

<sup>16</sup> Makrand Mehta, *Indian Merchants and Entrepreneurs in Historical Perspective* (Delhi, 1991), p. 35. For the present day observance, see R.J. Barendse, *Arabian Seas 1700–1763*, vol. II: *Kings, Gangsters and Companies* (Leiden, 2009), p. 690. Also see M.N. Pearson, “Banyas and Brahmins: Their Role in the Portuguese Indian Economy,” in Idem, *Coastal Western India: Studies from the Portuguese Records* (New Delhi, 1972), pp. 93–115, 104.

<sup>17</sup> Tavernier, *Travels in India*, II, p. 46.

<sup>18</sup> Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 180.

<sup>19</sup> Tavernier, *Travels in India*, II, p. 46.

<sup>20</sup> Different authors mention different numbers, see Verberckmoes and Stols, *Aziatische omzwervingen*, p. 173; Methwold in Moreland, *Relations of Golconda in the Early Seventeenth Century*, p. 33 Tavernier, *Travels in India*, II, p. 47, Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 181.

<sup>21</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 174.

<sup>22</sup> Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 181. For the bonus see Tavernier, *Travels in India*, II, p. 47.



later, Tavernier signalled no less than 60,000 men, women and children at work in the Kollur mine.<sup>23</sup> These numbers are astonishingly large, and can be explained by the very labor-intensive production process. Mining methods differed somewhat from mine to mine, depending on the type of soil that covered the diamantiferous stratum, as well as on the composition of the stratum itself.

Men dug the pits and took out the earth (and superfluous water) which was carried away in baskets by women and children. Indian miners could not dig below the water table, pits therefore varied from 4 to 14 feet deep.<sup>24</sup> These pits were not supported with timber, as in Europe Methwold noted, and De Coutre personally witnessed the collapse of a mine after heavy rain falls, taking the lives of at least 150 people.<sup>25</sup> The miners used no "pul-  
lies and such like devices" but sat on top of each other, and passed on the baskets.<sup>26</sup> The women and children carried the soil to a piece of ground, surrounded with a wall, pierced with holes. They soaked the soil with water, often brought in from quite far away, which would leave the area through the holes in the wall; subsequently the soil would be laid to dry in the sun on a flattened piece of ground, to "loosen" the diamonds from the surrounding earth. Finally, the earth would be sieved and searched to discover the diamonds. If the soil was too hard to extract the diamonds, miners would smash the lumps of earth to reveal the gemstones.<sup>27</sup>

There was not only a division of labor by gender and age; there was also a labor hierarchy amongst the miners. The most experienced of them had a very important role in the mining process as "searchers," since they could indicate from experience the places where diamonds could most likely be found. Though their status was high, they do not seem to have been paid extra for their skills.<sup>28</sup> According to De Coutre, the miners were the poorest of the poor. Tavernier thought they were peasants, who went

<sup>23</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 172, Methwold in Moreland, *Relations of Golconda in the Early Seventeenth Century*, p. 31, Tavernier, *Travels in India*, II, p. 59.

<sup>24</sup> "A Description of the Diamond-Mines," p. 910; Temple, *Diaries of Streynsham Master*, p. 174, Tavernier, *Travels in India*, II, p. 60.

<sup>25</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 174.

<sup>26</sup> Methwold, *Relations of Golconda*, p. 32.

<sup>27</sup> Tavernier, *Travels in India*, II, pp. 60-1.

<sup>28</sup> For the payment see Tavernier, *Travels in India*, II, p. 46, the expertise of the experienced miners is also signalled by Methwold in Moreland, *Relations of Golconda in the Early Seventeenth Century*, p. 31 and in the Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 180.

back to tilling the soil when the mines were exhausted.<sup>29</sup> The scholar Ishrat Aslam categorizes the miners as “possibly pauperised peasants and landless workers from the villages”.<sup>30</sup> We may therefore suppose that at least a large number of miners were labor migrants who moved from agricultural areas to the mines and vice versa.

Miners were contract laborers who worked for wages in cash, and who were sometimes also partly compensated in food.<sup>31</sup> Miners earned only three pagodas a year according to Tavernier, who may have mistaken the pay per month for a pay per year, as other observers noticed monthly wages from 0.5 to 1.5 pagodas (a pagoda roughly had the value of eight British shillings). According to Ravi Ahuja, a male “general worker” in Madras would have earned a monthly money wage of one pagoda around 1760.<sup>32</sup> This estimate would imply that the monthly earnings of the mine workers were more or less an average wage. However, compared to the other production costs, wages were very low. These low labor costs were also signaled by De Coutre, who stated that they would be much higher in Spain, leading to a higher price per carat.<sup>33</sup>

Food and other necessities of life (such a tobacco and betel leaves) had to be brought in from other territories, and the local rulers imposed heavy taxes—sometimes as high as 50%—on the already expensive commodities. According to Streynsham Master, miners and traders—except for privileged foreigners—were obliged to live in the town near the mines where these taxes were levied.<sup>34</sup> Methwold described the region of the Kollur mines as a place so barren, that before the discovery of diamonds it was hardly inhabited. But now it was “peopled with a hundred thousand souls, consisting of miners, merchants and such others as live by following such concourses.”<sup>35</sup> Around the mine, a complete local economy developed, leaving traces in the landscape which were still visible long

<sup>29</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 172, Tavernier, *Travels in India*, I, p. 230.

<sup>30</sup> Ishrat Alam, “Diamond Mining and Trade in South India in the Seventeenth Century,” *The Medieval History Journal*, 3 (2001), pp. 291–310, 300.

<sup>31</sup> Alam, “Diamond Mining and Trade in South India,” p. 300 and Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 180.

<sup>32</sup> For the other observations on mine workers wages, see Mukund, “Mining in South India,” p. 18. For the wages of a general worker in Madras see Ravi Ahuja, *Die Erzeugung kolonialer Staatlichkeit und das Problem der Arbeit: eine Studie zur Sozialgeschichte der Stadt Madras und ihres Hinterlandes zwischen 1750 und 1800* (Stuttgart, 1999), Appendix 8.1.

<sup>33</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 174.

<sup>34</sup> Temple, *Diaries of Streynsham Master*, p. 173.

<sup>35</sup> Methwold in Moreland, *Relations of Golconda in the Early Seventeenth Century*, p. 33.



after the mines had closed down. In 1908, an observer noticed "ruins of extensive habitations which are still to be seen on what is now a most desolate spot."<sup>36</sup>

From De Coutre's descriptions, we learn that the miners were sometimes "paid" per stone by merchants, who in return supplied them with food. As the miners sometimes would not find a stone for two or three months, they could easily end up in a position of debt bondage.<sup>37</sup> According to De Coutre, the miners—in this case in Ramallakota—barely had enough to eat. They lived in huts covered with straw, slept on mats, were covered with dirt of the mines, and wore no other clothes than a loin-cloth (which was obligatory; this was to prevent the miners from stealing). Unfortunately he gives no description of the other workers around the mine, so we have no idea whether they were better off. Miners who were too poor to support themselves sometimes organized in communities he calls *compagnies*.<sup>38</sup>

Streynsham Master reports a different situation at the Mallavilli mine near Kollur. He claimed "people are well favoured, well clothed, and looke as though they fed well to undergoe their great and hott labor."<sup>39</sup> How the miners perceived their position themselves, might be judged by the number of cases where a miner found a big stone, and took off with his wife and children.<sup>40</sup> Though the miners were often exploited by the merchants, they were worse off if there were no "adventurers" to commission mining, because then they had to work for the king, in exchange for boarding only. De Lange described these miners as "slave like objects."<sup>41</sup> Howard noticed that the governor of the Mallavilli mine in the 1670's had shut the mine down, and ordered all the miners to repair his residence. The miners had to obey, or else had to flee the area.<sup>42</sup>

Walking out seems to have been the only effective form of labor protest which miners had at their disposal. In 1655, both merchants and miners left the Kollur mine because of the bad governance by Jamal Beg. Only when a Brahman named Bhimanji was appointed, did the merchants and

<sup>36</sup> *The Imperial Gazetteer of India* vol. XV: *Karachi to Kotayam* (Oxford, 1908), p. 328.

<sup>37</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, pp. 172–4.

<sup>38</sup> *Ibidem*, p. 172.

<sup>39</sup> Temple, *Diaries of Streynsham Master*, p. 175.

<sup>40</sup> "A Description of the Diamond-Mines," p. 916.

<sup>41</sup> Report by Pieter de Lange, as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, pp. 179–81.

<sup>42</sup> "A Description of the Diamond-Mines," p. 909.

the miners return.<sup>43</sup> In this phase, labor relations in the Indian diamond mines seem to have been determined primarily by private decisions of local rulers. The Bijapur sultan appears to have shut down a number of mines in 1622, just when the VOC had started trading the stones very profitably, in order "to keepe the commoditie in request". Indirectly, the Dutch demand thus made the miners lose their jobs, although only for a year; the same mines reopened in 1623.<sup>44</sup> More often labor in the mines was disturbed by wars between rulers. The Mughal Emperors tried to conquer the Golconda and Bijapur sultanates, the mines being one of the reasons for their eagerness. In 1686 and 1687, they succeeded in their endeavours; mining operations remained disturbed till 1692 as a consequence of the wars. When the Mughals finally started farming out the mines, procedures were more or less the same as during the preceding sultanates.<sup>45</sup>

### *European demand and Indian production*

The possible influence of European demand on labor in the Indian mines should be viewed in a broader context. As the eagerness of the Indian rulers for the bigger stones shows us, there was a large internal consumer market for diamonds in India. Rulers were not the only Indians who owned and cherished diamonds. De Coutre described how each morning a procession of lords went to the court of Ibrahim Adil Shah II, the ruler of the Bijapur sultanate—mounted elephants, decorated with coloured gemstones came in front, followed by horses that wore gold and silver chains with plumes, set off with jewels containing diamonds, rubies and emeralds.<sup>46</sup> Stressing the difference in wealth between these rich lords and the ordinary population, De Coutre stated that if the members of the latter group possessed any wealth, the men would wear a brooch of gold and filigree and golden earrings with emeralds and rubies. He described the women as "very beautiful in their own way" with ribbons in their hair; a jewel on the front head set off with diamonds, rubies or emeralds; a

<sup>43</sup> Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, pp. 178–179, Alam, "Diamond Mining and Trade," p. 296 and Mukund, "Mining in South India," p. 16.

<sup>44</sup> Tapan Raychaudhuri, *Jan Company in Coromandel 1605–1690 A Study in the Interrelations of European Commerce and Traditional Economies* (The Hague, 1962), p. 171, and Methwold, *Relations of Golconda*, p. 33.

<sup>45</sup> Omar Khalidi, *Romance of the Golconda Diamonds* (Middletown, 1999), pp. 34–5.

<sup>46</sup> Verberckmoes and Stols, *Aziatische omzwervingen*, p. 119.



pearl or emerald nose pin; earrings as big as hand palms and necklaces of heavy pearls, emeralds and rubies.<sup>47</sup> For later periods, we know from the work of R.J. Barendse that the possession of diamonds was not restricted to emperors or kings: he describes the probate inventory of a *subehdar* (governor) of Bengal in 1728 who owned some fifty-two diamond rings. When the wealthy business man Mohan Das Seth in Bombay died, he left his wife a fortune in diamonds, and when the Bombay *devadasi* (temple dancer) Moti died in 1752, she left a considerable fortune in diamonds and joys. Not only members of the urban population owned diamonds, farmers in 18th-century Kerala possessed golden belts, inserted with pearls and diamonds<sup>48</sup>

A second point that has to be taken into consideration is that European traders were not the first, and certainly not the only merchants interested in diamonds. The gemstones formed an important part of India's export across the Indian Ocean seaboard (including South East Asia, the Persian Gulf and the Southern part of the Arabic Empire) where, according to Janet Abu-Lughod and Andre Gunder Frank, a global economy existed since or even before the fifteenth century.<sup>49</sup> According to Holden Furber, the European trade in diamonds formed but a small part of the whole, "as Golconda diamonds found their way to all parts of Asia."<sup>50</sup>

European demand expanded in the late 17th century when the use of precious stones in jewellery increased, and diamonds were being worn in bourgeois circles. This might have been an effect of the larger supply of gemstones—not only diamonds but also emeralds from Colombia, for example—but it could also be explained by the increasing economic prosperity of the bourgeoisie. Probably it was a combination of both factors.<sup>51</sup> In the 18th century, we can witness an increase in the use of diamonds in precious stone jewellery. This can be explained by the lower prices,

<sup>47</sup> Ibidem, pp. 120–1.

<sup>48</sup> Barendse, *Arabian Seas 1700–1763*, II, pp. 838–9 and 711, and Idem, *Arabian Seas 1700–1763*, Volume III: *Men and Merchandise* (Leiden, 2009), pp. 919 and 922.

<sup>49</sup> Janet L. Abu-Lughod, *Before European Hegemony: The World System A.D. 1250–1350* (New York, 1991); Andre Gunder Frank, *ReOrient: Global Economy in the Asian Age* (Berkeley etc., 1998), pp. 86–96. For the early trade relations in the Indian Ocean region see K.N. Chaudhuri, *Trade and Civilisation in the Indian Ocean. An Economic History from the Rise of Islam to 1750* (Cambridge, 1985), for his remarks on diamonds, see pp. 20 and 53.

<sup>50</sup> Holden Furber, *Rival Empires of Trade in the Orient 1600–1800* (Minneapolis, 1976), p. 260.

<sup>51</sup> Gedalia Yogeve, *Diamonds and Coral. Anglo-Dutch Jews and Eighteenth-Century Trade* (Leicester, 1978), p. 89.

caused by the increased supply since the discovery of diamonds in Brazil in the late 1720's, but also by a new fashion in diamond-cutting.

*Labor in the cutting and polishing industry*

One of the earliest sources informing us about the cutting techniques known in Europe is a description of a number of gemstones, including a price list, made in 1403 by a Jewish jeweller in Venice, who knew about diamond-cutting as well as the polishing process. From his list we learn that the heavier the diamond, the bigger the relative price difference between the rough and the finished stone.<sup>52</sup> This can be explained by the fact that a finished stone reveals its qualities immediately, whereas one cannot always tell how much of a heavy uncut stone is usable after cleaving.

In the 15th century, the so-called table cut developed, which meant that the top of the octahedron was flattened, giving the diamond a flat "table."

The technique to cut and polish diamonds was most probably developed in India, and spread from there to Venice.<sup>53</sup> In the 16th century, the technique of polishing facets developed. For this, one needs a polishing wheel and bort (diamond dust). In Europe, the first description of this technique was written by Benvenuto Cellini in 1568.<sup>54</sup> At the same time, the first Indian Mogul Emperor Sultan Babur (1463–1530) described how he received a diamond (probably the Koh-i-noor) from his son.<sup>55</sup> This was covered with triangular facets, arranged in a symmetrical radiating pattern, with the bottom of the stone left flat: a so-called "rose cut".

We do not know—yet—where this faceting technique originated, but we do have several descriptions of the work of Indian diamond cutters.<sup>56</sup>

<sup>52</sup> Colette Sirat, "Les pierres précieuses au XV<sup>e</sup> siècle," *Annales. Économies Sociétés Civilisations*, 23 (1968), pp. 1067–85, 1078.

<sup>53</sup> Godehard Lenzen, *The History of Diamond Production and the Diamond Trade* (London, 1970), p. 72 and Alois Haas, Ludwig Hödel and Horst Scheider, *Diamant. Zauber und Geschichte eines Wunders der Natur* (Berlin, 2004), p. 231.

<sup>54</sup> Benvenuto Cellini, *Abhandlungen über die Goldschmiedekunst und die Bildhauerei* [translation of *Trattato dell'oreficeria* from 1568 by R. and M. Fröhlich], (Basel, 1974), pp. 33–6.

<sup>55</sup> *The Baburnama: Memoirs of Babur, Prince and Emperor*. Translated, edited, Courtesy Random House and annotated by Wheeler M. Thackston (reprint, New York, 2002), p. 328.

<sup>56</sup> The discussion on the origin of the faceting technique is analysed in my: "Diamonds as a Global Luxury Commodity" in Bernd-Stefan Grewe and Karin Hofmeester (eds), *Luxury in Global Perspective: Commodities and Practices, c. 1600–2000* (forthcoming).



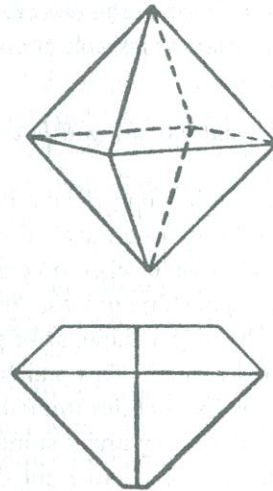


Figure 2. Top: Natural octahedron whose natural planes were polished. Bottom: Table cut (from Godehard Lenzen, *The History of Diamond Production and the Diamond Trade*, published by Barrie and Jenkins Ltd in 1970, courtesy of Random House, p. 78)

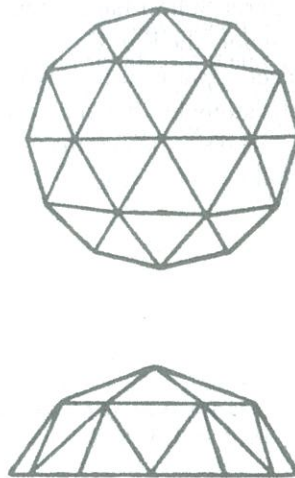


Figure 3. Top: Rose cut, top view. Bottom: Rose cut, side view (from Godehard Lenzen, *The History of Diamond Production and Trade*, published by Barrie and Jenkins Ltd in 1970, courtesy of Random House, p. 79)

Jean de Thévenot, a Frenchman who traveled to India in 1666, describes the famous castle of Golconda, and how sultan Abdullah Qutb-Shah housed his favorite workmen there:

The King will have the good Workmen to live there, and therefore appoints them lodgings, for which they pay nothing: He makes even Jewellers lodge in his Palace, and to these only he trusts Stones of consequence, strictly charging them not to tell any what they work about, least if Aran-Zeb<sup>57</sup> should come to know that his workmen are employed about Stones of great value, he might demand them of him. The Workmen of the Castle are taken up about the Kings common Stones, of which he hath so many that these Men can hardly work for any body else.<sup>58</sup>

The detailed description of Mughal Emperor Akbar's administration as given in the *Ain-i- Akbari* also mentions "lapidaries, metal casters and other artificers" who were "constantly employed at the Imperial Court where their work is subjected to the test of criticism".<sup>59</sup> Whereas de Thévenot seems to imply that artisans in the royal workshops (*kharkanas*) could not work for anybody else, under Mughal rule they often would not even be allowed to work for other employers and—according to some authors—performed forced labor.<sup>60</sup>

Diamonds were not only cut and polished by artisans in the royal workshops, they were also worked near the mines. Tavernier's description of the Ramallakota mine includes a report on the cutting and polishing activities he saw there. The extraction methods sometimes damaged the diamonds: when the miners smashed the lumps of earth to reveal the diamonds, they could cause fractures and flaws to the stones. If the miners noticed the flaws, they immediately cleaved it—"at which they are much more accomplished than we are"—according to Tavernier.<sup>61</sup> After the cleaving and cutting, the stone was covered with facets "in order that its defects may not be seen". If the diamonds had no flaws, "they do not more than just touch it with the wheel above and below, and do not venture it

<sup>57</sup> He is referring to Mughal Emperor Aurangzeb to whom Abdullah Qutb-Shah had to pay tribute.

<sup>58</sup> Surendranath Sen (ed.), *Indian Travels of Thevenot and Careri* (New Delhi, 1949), p. 138.

<sup>59</sup> *The Ain-i Akbari* by Abu'l-Fazl Allami, translated from the original Persian by H. Blochmann and H.S. Jarrett (Calcutta, 1873–1907), III, pp. 312–3.

<sup>60</sup> See, for this discussion, a.o. Tripta Verma, *Karkhanas under the Mughal. From Akbar to Aurangzeb. A Study in Economic Development* (Delhi, 1994).

<sup>61</sup> Tavernier, *Travels in India*, II, p. 44.



to give it any form, for fear of reducing weight".<sup>62</sup> In Ramallakota, there were numerous diamond-cutters according to Tavernier (it is remarkable that De Coultre, who visited the same mine some twenty to thirty years earlier did not mention these cutters at all). Each of them had a steel wheel "about the size of our plate". To find the grain of the diamond, the cutters put water on it; to be able to polish the diamond, they poured on oil and ample diamond dust "although it is expensive," to make the stone run faster. "The mill was like ours, the large wheel of which was turned by four blacks," according to Tavernier, but it turned less fast than the European ones because "the wooden wheel which causes the steel one to revolve is seldom more than 3 feet in diameter."<sup>63</sup> Tavernier felt that "the Indians were unable to give the stones such a lively polish as we give them in Europe; this I believe, is due to the fact that their wheels do not run as smoothly as ours."<sup>64</sup>

There was also another difference. In order to polish the stones, they were pressed against a revolving disk. As these disks would become dull after a while, they had to be ground regularly. As the Indian disks were made of steel (whereas the European disks were made of iron) they had to be taken off the wheel to be ground on emery, whereas the iron ones could stay in place, and be ground by a file. As a consequence, the Indian disks were ground less often, but when they were ground and the disks were put back on the wheel, they could run less smoothly. Pieter de Lange has described—though in less detail—the same process in the Kollur mine: damaged stones would be polished on disks and sold as *laskes*.<sup>65</sup> Unfortunately neither Tavernier nor De Lange mentions for whom, and under which conditions, the cutters near the mine worked.

We may conclude that the technique of facet polishing was well known in the 16th and 17th century, both in India as well as in Europe, and that more or less the same technique was used. What we know for sure, is that in Europe the facet polishing technique was developed further in the late 17th century, when the so called "brilliant cut" was invented. This would become the most popular cut in Europe in the 18th century.<sup>66</sup>

<sup>62</sup> Ibidem.

<sup>63</sup> Ibidem, p. 45.

<sup>64</sup> Ibidem.

<sup>65</sup> Report by Pieter de Lange as included in van Dam, *Beschrijvinge van de Oostindische Compagnie*, p. 177.

<sup>66</sup> M.H. Gans, *Juwelen en mensen. De geschiedenis van het bijou van 1400 tot 1900, voor-namelijk naar Nederlandse bronnen* (Schiedam, 1979), p. 173.

The brilliant cut implied, that the polished diamond not only had a very symmetrically cut and multi-faceted top, but also a pointed bottom, the so called pavilion. This increased the refractory quality of the diamond, enhancing its brilliance, but also reduced its weight, often up to 50%. The latter was anathema to the Indian lapidaries. This is often explained by the fact that one classical Indian text states that the diamond loses its virtues if you cut it.<sup>67</sup> However, the same text also mentions cutting and polishing as normal procedures, so maybe we should not attach too much value to that statement. It is however evident that the taste for stones which were left as big as possible was strongly developed in India. The number of carats was very important in the valuation, and therefore also in the pricing of diamonds in India.<sup>68</sup> In the 17th and 18th centuries, the Indian and European tastes for finished diamonds clearly began to diverge.

Already in the 1670s, John Fryer (a scientifically trained servant of the EIC) wrote that the Indian cut and polished diamonds were mostly sold in the country, whereas the rough stones were sent to Europe—"they coming short of the Fringies in Fancy". In Europe, they were "both set and cut to more advantage".<sup>69</sup> Elsewhere, he advised potential buyers in India that "Rough, brute or uncut stones, are in value half the price of cut or polished stones".<sup>70</sup> The same price difference, even increasing with more than 50% for stones of one carat and more, was also mentioned by the 15th century Venetian-Jewish merchant quoted earlier. The sources give no information about the reason for this price difference; of course, there was the direct visibility of the quality of a cut stone, but maybe the wages of Indian cutters and polishers also added value to it, even though the result was not fitting European tastes.

As taste and fashion are important factors in the production and consumption of luxury commodities, one might plausibly assume that the European preference for brilliants prompted the relocation of the diamond finishing industry from India to Europe. But there were also more prosaic reasons for the relocation: more value could be added, if finishing

<sup>67</sup> Louis Finot, *Les lapidaires indiens* (Paris, 1896), pp. xxx–xxxi, he quotes the *Agastimata*, a tenth century manuscript on gemstones with a lot of later date additions. In an appendix to this manuscript, it says that a diamond cut with a blade or worn out by repeated rubbing, becomes useless and loses its benevolent virtue. However, in the manuscript itself, cutting and polishing are described as normal, permitted procedures.

<sup>68</sup> Oppi Untracht, *Traditional Jewelry of India* (New York, 2008), pp. 317–8.

<sup>69</sup> John Fryer, *A New Account of East-India and Persia in Eight Letters being Nine Years Travels, Begun 1672 and Finished 1681* (London, 1698), p. 113.

<sup>70</sup> Ibidem, p. 213.



and cutting could be done in Europe. If a merchant had enough skills to value a rough diamond, his profits would be bigger if he could avoid the re-cutting process that often had to be done in Europe to adapt the stone to local tastes. The relocation also fits the general tendency to start producing "Oriental" commodities in Europe.<sup>71</sup>

Since more money could be made by buying rough diamonds in India, and having them cut and polished in Europe according to the latest brilliant fashion, the discovery of new diamond fields in Brazil seemed to set off a true rearrangement of the diamond commodity chain with large consequences for the labor relations in both Brazil, India and Europe.

*The discovery of diamond mines in Brazil and its consequences*

In the late 1720s, the discovery of large deposits of alluvial diamonds in the Brazilian Minas Gerais district north of Rio de Janeiro seemed to herald a new era in the diamond trajectory history.<sup>72</sup> No longer was India the sole supplier of rough diamonds (apart from the very small stream of diamonds that reached Europe from Borneo from the late 17th century onward) and no longer did local kings decide how and by whom the mines would be exploited.<sup>73</sup> The diamond fields in Brazil were exploited by the colonial powers in Lisbon: a Crown that was not in the first place interested in diamonds for its own adornment, but in making as much profit out of them as possible. Initially, the new exploiter—happy to have a new source of diamonds after being outpaced and outplaced by the Dutch and the British in India—welcomed all merchants and miners to work the mines, as long as they paid a tax per miner to the Portuguese treasury. These miners were in fact mostly slaves, imported on a large scale from Africa especially for this purpose. From a labor relations perspective, the biggest impact of the discovery of diamonds in Brazil was of course to be found in Africa and Minas Gerais itself, not only for the massive increase of explicit unfree labor, but also for the development of a local economy

<sup>71</sup> For this, see Maxine Berg, *Luxury and Pleasure in Eighteenth-Century Britain* (Oxford, 2005) and for a focus on the textile industry: Giorgio Riello, "The World of South Asian Textiles, 1500–1850," in Giorgio Riello and Tirthankar Roy (eds.), *How India Clothed the World: The World of South Asian Textiles, 1500–1850* (Leiden, 2009), pp. 1–27.

<sup>72</sup> Later in the 1740s, diamonds were found in the Mato Grosso district in the East, and finally, in the 1840s, new field were discovered in Bahia.

<sup>73</sup> Though some publications mention the Borneo mines, no serious attempts have been made to include Borneo in the global diamond commodity chain, which I hope to do in a later stage of research.

around the mines, including the start of agricultural production and even imports from Europe.<sup>74</sup> However, because this article focuses on India and Europe, I will skip this important interconnection here.

The uncontrolled mining operations caused an enormous flow of rough diamonds in Europe, more than five times the value that usually came from India, which led to a price drop to half the previous value, and in some cases even to a third of the usual price.<sup>75</sup> The Indian trade came to a complete standstill. Startled by the lowered prices and the responses of the European traders—who feared that in Brazil “diamonds were as plenty as transparent pebbles”—the Portuguese Crown shut the Minas Gerais mines down in 1734.<sup>76</sup> When the mines reopened in 1739, they established a mining monopoly, with the actual mining entrusted to one single contractor or consortium (in practice it was usually a Brazilian merchant of Portuguese origin). The contractor had to pay rent per slave, and was not allowed to employ more than 600 slaves, to avoid overproduction.<sup>77</sup> The trade in rough diamonds was linked up with this mining monopoly, so that representatives of the contractor could only sell their products in Lisbon, where trading procedures were state-controlled, and officials of the king had the first choice of stones though—unlike the Indian kings—they paid for the diamonds. Only after this procedure, the representatives could sell the remaining diamonds to other European merchants.<sup>78</sup> In 1753, the Crown—in an attempt to stop the ongoing illegal mining and smuggling—decided to separate the two parts of the diamond commodity chain, and established a true trading monopoly, next to the mining monopoly. The Dutch consul in Lisbon, Daniël Gildemeester, obtained this extremely expensive trading monopoly in 1761, and held it for several decades.<sup>79</sup> Concluding that it was impossible to combat corruption in the mining business, the Portuguese king in 1771 decided that the Crown

<sup>74</sup> See for the increase of slave labor: Laird W. Bergad, *Slavery and the Demographic and Economic History of Minas Gerais, Brazil, 1720–1888* (Cambridge, 1999); for the development of the local economy see Donald Ramos, “Slavery in Brazil: A Case Study of Diamantina, Minas Gerais,” *Americas: A Quarterly Review of Inter-American Cultural History*, 45 (1988), pp. 47–59. For the imports, see Tijl Vanneste, *Commercial Culture and Merchant Networks: Eighteenth-Century Diamond Traders in Global History* (PhD Thesis European University Institute, Florence, 2009), p. 293.

<sup>75</sup> For the amounts see Yoyev, *Diamonds and Coral*, p. 116.

<sup>76</sup> David Jeffries, *A Treatise on Diamonds and Pearls* (London, 1751), p. 66.

<sup>77</sup> Vanneste, *Commercial Culture and Merchant Networks*, pp. 231 and 281, Ramos, “Slavery in Brazil,” p. 48.

<sup>78</sup> Vanneste, *Commercial Culture and Merchant Networks*, pp. 231 and 281.

<sup>79</sup> Ibidem, pp. 231–5 and Yoyev, *Diamonds and Coral*, p. 122.



would be the sole mine exploiter (the 'Royal Extraction'). This situation would last till Brazil's independence in 1822, when the concession system was reintroduced.

What were the consequences of the discovery of this new diamond mining region for production and labor, in India and Europe? Unlike India, a local consumer market for diamonds was nonexistent in Minas Gerais, all diamonds were mined to be sold directly in Europe.<sup>80</sup> To earn as much as possible from their sale, the Portuguese Crown tried hard to concentrate the trade in rough in Lisbon. However, an enormous amount of smuggled diamonds directly found their way from Brazil to London—a city which kept its status as important market in rough diamonds.<sup>81</sup>

The large role of the Dutch trade monopolist Gildemeester (as well as the subsequent role of the Amsterdam based banking firm Hope & Co) in lending money to the Portuguese Crown in exchange for diamonds meant that Amsterdam had a constant and direct inflow of rough diamonds from Brazil.<sup>82</sup> This had two important consequences: London had to share its position as rough market with Amsterdam, and, more importantly, the position of Amsterdam as *the* finishing center of the world was consolidated. It was hard to compete with Amsterdam's supply of capital; its trade connections that guaranteed a constant influx of rough diamonds and its large number of finishers offering craftsmanship in the various, specialized branches of the industry, for relatively low wages.<sup>83</sup> As a consequence, the trade in finished diamonds flourished in Amsterdam.

After 1740, the trade with India surprisingly revived. The measures of the Portuguese Crown to regulate the supply seemed to be effective and the growing demand—spurred by the lowered prices and the invention

<sup>80</sup> When the Portuguese Crown settled in Rio de Janeiro in 1808, taking refuge for the French troops that had occupied Portugal, they took their (taste for) diamonds with them, as well as the diamond finishers that had served the court. See Harry Bernstein, *The Brazilian Diamond in Contracts, Contraband and Capital* (Lanham, 1986), p. 57. For more consequences of the move from Lisbon to Rio de Janeiro on diamond production in Minas Gerais, see Bergad, *Slavery and the Demographic and Economic History of Minas Gerais*, pp. xviii, 93–94; 128.

<sup>81</sup> Yogeve, *Diamonds and Coral*, p. 122.

<sup>82</sup> In exchange for loans to the King of Portugal, Hope & Co received an exclusive concession to sell diamonds originating in the Portuguese colony of Brazil. The Hopes would accept the diamonds and sell them on the Amsterdam market; then they used the proceeds to defray the interest and principal of the loans they had made to Portugal. For the Diamond Loan see Marten G. Buist, *At Spes non fracta. Hope & Co., 1770–1815* (The Hague, 1974), p. 383 ff, for the technical explanation, pp. 386–7.

<sup>83</sup> Yogeve, *Diamonds and Coral*, p. 142; Jeffries, *A Treatise on Diamonds and Pearls*, p. 101.

of the brilliant cut—balanced the supply. There is therefore no reason to assume that the discovery of Brazilian diamonds had any effect on the production in the Indian mines; the demand was big enough and for a very long time the Indian stones were preferred above the Brazilian ones.<sup>84</sup> It might however have affected the cutting industry in India, as far as the Indian cutters worked for the European market. Only thorough research in available archives of European merchants and jewellers could statistically prove an increased demand for brilliants, and as a consequence extra demand for uncut stones from India. A quick comparison of the account books of Joseph Cope, a famous diamond polisher in London, for the years 1693–1710 shows us that he seems to have sold as many rose cut diamonds as brilliant cut diamonds, whereas the 1771–1776 accounts of EIC agent Harry Verelst with diamond merchant George Robertson show many more brilliants than rose cuts. Robertson also ‘made over’ an ‘India cut brilliant’. Still, Lyon Prager, a member of the famous London based diamond Jewish diamond merchant family, settled in Calcutta and bought diamonds polished in India as late as 1791, though they only formed a small part of his trade.<sup>85</sup>

*Labor in the Indian diamond industry from the late 18th to the late 20th centuries*

By the end of the 18th century, the production of the Indian mines seems to have slowed down, though the sources that inform us about this might be biased. There are quite a number of reports from British officials who explored the possible revenues of diamond mines in the recently acquired ‘Ceded districts’.<sup>86</sup> These included the Bellary district (where several mines were located), as well as Cuddapah en Kurnool. These sources show the

<sup>84</sup> Lenzen, *The History of Diamond Production*, pp. 129–130.

<sup>85</sup> The National Archives of the United Kingdom, Kew, (hereafter TNA) Chancery Records, C 104/197 Cope vs Cope, (1693–1710) a.o. overview of diamonds bought (not dated), printed list of his jewel stock, to be sold in public auction after his death in 1710. British Library, London (hereafter BL), India Office Records (hereafter IOR), Mss Eur F 218/56 accounts of Harry Verelst with George Robertson (1771–76); TNA, Chancery Records, C 111/146 Elliot vs Willis, Sale book of diamonds and pearls from Lyon Prager (Calcutta 1787–1796).

<sup>86</sup> In 1796 AD, the Deccan Nizam Asaf Jah II, harassed by the Marathas and Tipu Sultan, opted to get British military protection. In return, the Nizam ceded a large portion of the acquired territory to the British, to be added to the Madras Presidency. This area was also known as the *Ceded Districts*.



direct influence of British demand on the situation in the Indian mines, especially now they had become in 'their possession'. At the same time, they tell us how the mine was worked when the reporters came to visit, and how the British felt the mines should be worked. I will focus on the extensive reports on the mines near Cuddapah, and contrast these to the reports on the Panna mines that were not part of the Ceded districts.

Starting in 1796, Benjamin Heyne wrote several of reports on a number of mines (he was a surgeon, naturalist and botanist, working for the EIC). Though Heyne was primarily interested in minerals, he also had an eye for the miners and their labor—and wrote about them. The exploitation of the mines near Cuddapah he described was more or less the same as in the 16th and 17th century: the mines were governed by a headman who paid rent—this time to the EIC—and who worked some mines himself, farming out the rest. The headman paid a yearly rent of 130 pagodas to the Company; for diamonds weighing more than 12 carats, he had to pay one third of its value to the Company. Miners were hired by the headman, and received one pagoda per month. Heyne noticed men, women and children working in the mines, about sixteen people per mine. As in previous centuries, the actual owner of the mine farmed it out, received rent for it, and a percentage of the larger stones, but the owner did not carry the financial risks; these were borne by the renters. The renter made 5,000 pagodas profit per year, against 2,000 pagodas in expenses.<sup>87</sup> Labor costs still seemed to have been only a small part of the production costs. The mining procedures are much the same as in the earlier descriptions, though the number of miners was much smaller than in the earlier days, which could point in the direction of exhaustion of the mines, or at least the layers that could be worked on with the simple methods the miners had at their disposal.

A report written in 1814 by C. Ross, collector to the Board of Revenue in Fort St George for Kurpah, near Cuddapah, gave a detailed overview of the revenue of the Company from the mines, showing that it earned more from the rent than from the share of the bigger diamonds. The bigger stones were sold in public auction; the profit was divided between renters and sub-contractors. According to Ross, most miners owned shares in the produce, only some miners were 'mere laborers for hire'. Given the

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<sup>87</sup> Benjamin Heyne, *Tracts, historical and statistical on India, with several tours through various parts of the peninsula: also an account of Sumatra, in a series of letters* (London, 1814), pp. 101–2 and BL, IOR F/4/275/6149 and P/243/35.

current output of the mines, he did not expect cultivators to go working in the mines, this might change though if mining would become more profitable. Ross was convinced that in reverse, miners would never engage in cultivation as their job was hereditary (suggesting a specific caste background). If they could find no work near the Penner river, they would go to the Kristna. One might conclude from Ross's report that labor migration still existed, although not from agricultural areas to mining areas, but from one mining area to another. All in all, the labor relations between the owner of the mine and the main renter on the one hand, and the renter and the miners on the other, seem to be less unfree than in earlier periods.

To make the exploitation of the mines more profitable, Ross suggested that smaller plots of the mine should be rented out. An advertisement was placed in the *District Gazette*, and some Indian entrepreneurs responded.<sup>88</sup> In 1821, the Board of Revenue found that the rent had yielded no more than 200 pagodas a year, and therefore stopped the exploitation.<sup>89</sup> In the meantime, a Mr Christy (a surgeon in service of the EIC), had suggested a more profitable way of exploiting the mine, using a very specific form of unfree labor. He suggested that the convicts of the Cuddapah district could be put to work in the mines nearby. They cost the Company a fortune each year, and although they worked to build water tanks, roads and bridges, they could be used for much more profitable work. According to Christy, nobody wanted to rent the plots of mine, as 'coolly hire' was expensive, and the rent was too high in relation to the profits. If convicts could be put to work in the mines, with the help of real "searchers," there would be no expenses on wages. He attached a detailed account of the profit rates he expected for the next ten years, and also added an extra encouragement: "the government of Brazil employs all its convicts and many slaves in digging and searching for diamonds."<sup>90</sup> The Board of Governors of the EIC however did not like the plan. The convicts, they felt, did useful work already; it was not wise to put people who were convicted for theft to work in a diamond mine, where they had to be guarded, and peons had to be paid, but most of all: the capital for the exploitation should be provided by private individuals and not by the government.<sup>91</sup>

<sup>88</sup> BL, IOR F/4/540/13001, letter by C. Ross dated 24th of December 1814.

<sup>89</sup> BL, IOR F/4/676/18769: extract revenue letter from Fort St George 6th of July 1821.

<sup>90</sup> BL, IOR F/4/676/18769 letter of Mr Christy from 9th of January 1817.

<sup>91</sup> BL, IOR F/4/676/18769 letter from England dated 22nd of May 1819.



In 1820, EIC Captain Buckley reported that the diamond mines in and around Panna in the central provinces of India yielded quite some diamonds of good quality. People thought only table cut diamonds came from these mines, but this was just a matter of Indian taste, they could be turned into brilliants for the Europeans. Buckley suggested a considerable investment of capital, knowledge and technique by the EIC and by private investors, but the Company turned this plan down as well, and decided not to work these mines as they were still 'in the possession of a foreign power'.<sup>92</sup> In 1877, the Frenchman Louis Rousselet described the diamond mines near Panna, which were quite deep but still worked with age-old devices such as candles (to heat and soften the hard layers of rock) and the Persian wheel (to transport water and earth to the surface). According to Rousselet, the mines yielded 1.5 million of francs per year, but very few diamonds reached Europe, as they were very much in demand in India itself. The Raja who owned the mines sold the rough stones to Allahabad and Benares, but lately had started a polishing workshop in Panna. Rousselet felt their products could not compete with the Dutch finished stones, but he certainly liked the rose cuts and large faceted brilliants made in Panna.<sup>93</sup>

Diamonds were at that time not only cut and polished in Panna, Allahabad and Benares. In 1842, EIC captain Newbold visited several diamond mines, and wrote about Munimadugu that here, some of the cutters and polishers 'famous for their skill as lapidaries' could be found.<sup>94</sup> They used to process the stones found in the Ramallakota mines, where the cutters and polishers who had lived there for centuries, had fled the attacks of the Maratha troops and settled in Munimadugu. The Kurnool District Manual gives us a glimpse of the labor relations in and around the mines: the cutters were hired by Gujarati merchants, who fled with 'their' *kamsalis* from one mine to another.<sup>95</sup> Most of the cutters and polishers would escape from violence again, and leave Munimadugu for Madras or Hyderabad.<sup>96</sup>

<sup>92</sup> BL, IOR F/4/661/18326 Extract Bengal Public Consultation 15th of September 1820.

<sup>93</sup> Louis Rousselet, *L'Inde des Rajahs. Voyage dans l'Inde centrale et dans les présidences de Bombay et du Bengale* (Paris, 1877), pp. 442–3.

<sup>94</sup> Lieut. Newbold, "Mineral Resources of Southern India No 8. Diamond Tracts," *The Journal of the Royal Asiatic Society of Great Britain and Ireland* vol. 7, no 8 (1843), pp. 226–40, 230–1.

<sup>95</sup> Chetty, *Manual of the Kurnool District*, p. 95.

<sup>96</sup> BL, IOR F/4/540/13001 Extract proceedings of the Board of Revenue at Fort St George of 2nd of January 1815.

The Panna mines remained in the minds of the British who, in 1904, asked E. Vredenburg of the Geological Survey of India<sup>97</sup> to write a report on the mines. He concluded that the mines could still be worked profitably, as long as modern science and technique were used. Of course, Indian laborers would still have to do the real mining work, and Vredenburg noticed, this should be family work: men, women and children working together, as the Indians clearly preferred this way of working. Strict supervision of the workers was needed, but since there were women and children involved 'such severe measures as are practiced in the South African mines' were of course impossible.<sup>98</sup>

These reports, letters and books all show us that diamonds were still found in India, even in the 20th century, though not so much in the areas which the British had under their control. A publication of K.P. Sinor from 1930 on the Panna mines shows us that diamonds were still mined there, and also cut and polished, though on a small scale. It is therefore not correct to speak of a 'return' of the diamond polishing industry in the 20th century; it just never disappeared. When the Indian mines did not produce enough stones to satisfy the Indian appetite for diamonds, they were imported from South Africa.<sup>99</sup> Indian merchants also started to buy rough and polished stones from Antwerp traders, who had local agents in Bombay. The fact that in the 20th century the Indian merchants turned to Antwerp, rather than to Amsterdam, proves that the latter city had lost its position to the first, which is another important shift in the diamond trajectory, already discussed elsewhere.<sup>100</sup>

To circumvent these middlemen merchants, several jeweller-merchants from Palanpur in Gujarat—all Jains—started to travel to Antwerp themselves to import polished stones.<sup>101</sup> Some twenty Palanpuri dealers

<sup>97</sup> The Geological Survey of India was established in 1851, as a follow-up of the EIC commission on Coal which aimed to study and explore availability of coal in the eastern parts of India. Eventually it became a government organization controlled by the Union Ministry of Mines for conducting geological surveys and studies.

<sup>98</sup> BL, IOR/R/2/449/4 E. Vredenburg, *Geology of the State of Panna*, principally with reference to the Diamond bearing deposits (1904).

<sup>99</sup> In 1867, India started importing rough diamonds from South Africa immediately after their discovery, see V. Ball, *A Manual of the Geology of India. Part III Economic Geology* (London, 1881), appendix A, pp. 576–9.

<sup>100</sup> See for example Salvador Bloemgarten, *Henri Polak, social democrat 1868–1943* (The Hague, 1993), chapter seven.

<sup>101</sup> Jainism is a religion that prescribes pacifism and non-violence towards all living beings. It is a minority religion whose adherents form quite successful immigrant communities in North America, Western Europe and the Far East. For their activities in the diamond trade, see Sebastian Henn, "Transnational Communities and Regional Cluster



travelled up and down to Antwerp in the 1920s.<sup>102</sup> These imports stopped abruptly in 1947: after its independence, India's new government established import regulations that prohibited the import of polished diamonds. Rather than spending money abroad on "luxury," the government wanted to stimulate investments in the economic developments of India. In 1952, the Indian entrepreneurs were allowed to import diamonds again, on the condition that only 10% of their purchases were polished; the rest should be rough stones that had to be polished in India. This way, the Indian industry would be stimulated. Some Palanpuri merchants invited Antwerp cutters and polishers to India to teach them the modern techniques. These techniques were transferred to the people from the villages in Gujarat.<sup>103</sup> The Indian diamond industry was further stimulated by the 1962 Replenishment Scheme. From then on, all import restrictions were repealed, as long as the finished goods were exported at a higher price.<sup>104</sup> This led to a growth of the diamond cutting and polishing industry in India. From 1964, Indian merchants were welcomed as sight holders—authorized purchasers of rough diamonds—at the Central Selling Organization in London.

The discovery of diamond mines in Australia in 1985, which produced mainly small, low quality gems, really kicked off the Indian diamond industry, when Indian entrepreneurs decided to polish very small stones which previously used to be considered suitable for industrial use only. The price of large, and therefore rare, rough diamonds is very high and labor costs form a relative small percentage of the total production costs. However, with small stones, the value added by cutting and polishing is greater in proportion to its total price. This explains the interest of the Indian entrepreneurs: they combined a relatively skilled labor force with low labor costs, that could be achieved, amongst other things, by a high

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Dynamics. The Case of the Palanpuris in the Antwerp Diamond District," *Die Erde*, 141 (2010), pp. 127–47; 132–3.

<sup>102</sup> Ibidem, 134.

<sup>103</sup> Bernard Imhasly, "Schleifen am Familientisch. Über Indiens wichtigste internationale Industrie," *NZZ Folio. Die Zeitschrift der Neuen Zürcher Zeitung*, 12/93, <<http://www.nzzfolio.ch/www/d80bd71b-b264-4db4-afdo-277884b93470/showarticle/ed4da8ad-068a-48aa-83d1-7b35d39ad8a9.aspx>> [last accessed on 11 August 2011].

<sup>104</sup> Henn, "Transnational Communities and Regional Cluster Dynamics," p. 136 and Menahem Sevdemish, Alan R. Miciak, and Alfred A. Levinson, "The Rise to Prominence of the Modern Diamond Cutting Industry in India," *Gems and Gemology*, 34 (1998), pp. 4–23, 6.

input of child labor.<sup>105</sup> The tiny stones were very fashionable in the USA, where a fast expanding market developed when the American department store chain Walmart started selling jewellery set with small stones.<sup>106</sup> To illustrate the growth of the industry in India: in 1966, 6% of the world's diamonds were polished in India, and in 1996, 92%.<sup>107</sup>

As a country with a long mining, finishing and consumption tradition, India is nowadays a finishing center for all types of diamonds, from small to large, and is also developing as a diamond consumption center.

### Conclusion

The worldwide production and trade of rough and finished diamonds involved many different forms of labor, often interconnected. Much of this labor was migrant labor: Gujarati merchants moved from the West coast to the mines in South and Central India, forming a true trading Diaspora, employing local miners who went to and fro between agricultural and mining areas in the early modern period, and from one mine to the other in the 19th century. European merchants also migrated, to pick up their part in the commodity chain, leaving the European capitals in order to settle in Indian coastal trading hubs. As a consequence of the growing European demand for diamonds, the wish of the Portuguese Crown to earn as much as possible from diamond production in its colony, and the lack of a local labor force, a large scale forced migration took place from Africa to the Brazilian diamond mines from the late 1720's onwards.

Work in the cutting and polishing sector depended too on circulation, not only of knowledge and technology, but also of skilled workers. In India, Gujarati merchants took 'their' *kamsalis* from mine to mine, and the shift of the finishing industry from Antwerp to Amsterdam was spurred by the migration of skilled workers. In the 20th century, the travels of merchants and finishers between Antwerp and Bombay stimulated the large scale growth of the Indian cutting industry.

Next to migration, ethnicity, religion and caste played a role in labor relations in the global diamond production. Gujarati merchants were

<sup>105</sup> For a very critical review of the diamond sector, including child labor in the Indian sweat shops, see Janine Roberts, *Glitter & Greed. The Secret World of the Diamond Cartel* (New York, 2003), chapter 2.

<sup>106</sup> Tom Zoellner, *The Heartless Stone. A Journey through the World of Diamonds, Deceit and Desire* (New York, 2006), p. 199.

<sup>107</sup> Sevdermish, Misiak and Levinson, "Rise to Prominence," p. 8.



often *Banias* not seldom Jains, whereas European merchants were often—though certainly not always—Jewish. Both traditions can still be seen in the 21st century trading and finishing hubs Antwerp and Indian cutters and polishers all seemed to have been members of the goldsmiths caste, whereas the Amsterdam diamond industry for a long time was a mainly—though again certainly not completely—Jewish industry. These ties facilitated contacts with trade—and often family—relations in other parts of the world, sharing capital on the one hand and knowledge, skills, contacts and trust on the other. These forms of human capital are very important in the sector and travel easily, if needed globally.

Next to the characteristics of people in the diamond production, there is also the geographical and more importantly the political context that shaped labor relations. There are striking similarities in the way mine owners exploited 'their' mines. Most of them farmed out the mines, leaving the financial risks to the governors, merchants or renters of the mines. The owners profited from the mine's produce by demanding (a share of) the larger diamonds, mine rent as well as taxes. Whether the mine owner was a Deccan sultan, Mughal Emperor, the EIC or the Portuguese Crown, they more or less all followed the same exploitation methods, striving for a monopoly on the mines and the control of supply. Political and more specifically colonial contexts could also determine large differences between labor relations in different countries. Putting convict laborers to work in the diamond mines in the Indian districts 'ceded' to the British was unacceptable, while it was a daily routine in the Portuguese colony Brazil. Apart from these differences, colonial powers could also determine which mines were exploited, how and by whom. Depending on the nature of the 'government' of the mine, miners could be subject to slavery or harsh labor conditions such as low wages, debt bondage and corvée labor.

Finally, there are number of very visible global-local interconnections, such as the local economies that developed around the diamond mines in India, but more especially in Brazil, as a consequence of the production of diamonds for the European market. Perhaps the most striking interconnection is the 18th century relocation of part of the finishing industry from India to Europe, as a consequence of a changing consumer taste there and the discovery of diamonds mines in Brazil, a development that was reversed in the 20th century after the discovery of mines in Australia and the start of a new fashion for small stone jewellery in the US.